

DESCRIPTIONWIRING CLIP FOR SECURING ELECTRICAL WIRING TO A FRAMING MEMBER

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Field of the Invention

The present invention relates generally to a wiring clip, and more particularly to a wiring clip for securing electrical wiring to a metal framing member.

Background of the Invention

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The National Electric Code specifies that electrical wiring be positioned a defined safe distance (1 1/4 inches) from the nearest edge of a framing member. The code requirement is found in Article 300, Section 300-4(d) N.E.C. If such spacing can not be maintained, the electrical wiring has to be protected by a 1/16 inch thick steel plate or sleeve. The purpose of the code requirement is to prevent fasteners, intended to be driven into the face of the framing member to secure the wall board to the framing member, from piercing or otherwise damaging the electrical wiring.

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A present practice is to staple electrical wiring to the major flat side of a wood framing member. While the method is suitable for single wires, this becomes a particular problem for multiple wires, where the wires should be stapled one on top of the other to maintain the proper distance from the nearest edge of the framing member. Additionally, with the increasing usage of metal studs as framing members, the stapling of the electrical wires to metal framing member is difficult and may not provide adequate support for the electrical wiring.

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Therefore, a need exists in the industry for a wiring clip capable of securing one or more electrical wires to a metal framing member efficiently and effectively. It would be desirable for the wiring clip to be compact, lightweight, and easy to install.

Brief Summary of the Invention

The present invention relates to a method and apparatus for securing electrical wiring to a metal framing member. A wire clip in accordance with the subject invention can have an open frame having a wire receiving area formed in the main body. The wire receiving area can be centrally located within the main body. The wire clip can be generally of U-shaped configuration, with two arms being joined to the main body. The end of the first arm can be bent to form a J-hook, such that the J-hook can be hooked about a first inner edge of a metal framing member. The end of the second arm can comprise a bent portion which can be secured about a second inner edge of the metal framing member. The arms, as well as the main body, can be flexible, such that the arms and the main body will embrace the metal framing member.

In a method of use, one or more electrical wires can be positioned with respect to the framing member prior to the installation of the wiring clip. The electrical wiring can then be secured in the proper longitudinal location on the metal stud by securing the J-hook of the subject wiring clip at the end of the first arm about the first inner edge of the metal framing member and moving the subject wiring clip over the metal framing member, positioning the electrical wiring within the wire receiving area. The wiring clip can then be secured to the metal framing member by slipping the end of the second arm around the second edge of the metal framing member.

In an alternative embodiment, a wiring clip in accordance with the subject invention can be secured to the metal framing member and then the electrical wire(s) can be positioned in the wire receiving area of the wiring clip. After the placement of the wire(s) in the receiving area, preferable the wire(s) are secured in place by a receiving area closure means.

An alternative method of securing electrical wiring to a framing member can involve the positioning of the subject wiring clip to the framing member and then threading the electrical wiring through the wire receiving area. The wire receiving area can have smooth edges so as to not cut the insulation on the electrical wiring.

The wiring clip can be further secured to the framing member by means of a secondary attachment device, such as a screw or other similar means. To secure, a screw can be driven through, for example, the first and/or second arm and into the metal stud.

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Brief Description of the Drawings

Figure 1 is a perspective view of a wiring clip in accordance with the present invention.

Figure 2 is a top view of a wiring clip in accordance with the present invention.

Figure 3 is a top view of a specific embodiment of the present invention.

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Fig 1

Figure 4 is a top view of the of an embodiment of the subject wiring secured to a metal framing member.

Figure 5 is a top view of the clip end of the clip of the present invention being secured about a metal framing member.

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Fig 2

Figure 6 is a bottom view of the clip of the present invention being secured to the metal stud with a screw.

Detailed Disclosure of the Invention

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Referring to Figures 1 and 2, an embodiment of the subject wiring clip **10** generally resembles an open frame having a wire receiving area **12** formed in the main body **14**, where the wire receiving area **12** is centrally located within the main body **14**. Although centrally locating wire receiving area **12** is preferred, a non-centrally located wire receiving area can also be utilized. The wire clip **10** shown in Figures 1 and 2 has a generally U-shaped configuration, with two arms **16** and **18** being joined to the main body **14**. The end **20** of the first arm **16** is bent to form a J-hook **22**, such that the J-hook **22** can be hooked about a first inner edge **42** of a metal framing member. The end **24** of the second arm **18** can be bent such that it can be slipped around a second inner edge **44** of the metal framing member. As such, end **24** can be removably secured about the second inner edge **44** of the metal framing member. The arms **16** and **18**, as well as the main body **14**, are preferably flexible, such that the arms **16** and **18** and the main body **14** can embrace the metal framing member. For

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example, the subject wiring clip 10 can be made of spring steel or other metals. Alternatively, the subject wiring clip 10 can be made from a flexible plastic or other appropriate material.

5 In a preferred embodiment, the wiring clip 10 is dimensioned to fit about a two-by-four metal framing member.

10 In an additional embodiment, as shown in Figure 3, a material 28 can be affixed within the wire receiving area 12. Material 28 can be resilient such as to increase the compressive force between the wiring and the framing member, more securely securing the wiring against the metal framing member. For example, material 28 can be foam, rubber, or other similar materials. Material 28 can also be located along the sides of the wire receiving area to reduce the risk of cutting the wiring by the subject wiring clip.

15 In a preferred method of use, the wiring is positioned with respect to the framing member prior to securing the wiring clip 10 to the framing member. As shown in Figures 4 and 5, the wiring can then be secured in the proper location on the metal framing member by securing the J-hook 22 at the end 20 of the first arm 16 about the first inner edge 42 of the metal framing member. The wiring clip 10 can then be positioned over the metal framing member such that the electric wiring is within the wire receiving area 12. The wiring clip 10 can then be secured to the metal framing member by clipping end 24 of the second arm 18 about the second inner edge 44 of the metal framing member. The end 24 permits the wiring clip 10 to be removably attached to the metal framing member, such that the wiring clip 10 can be temporarily removed from the metal framing member 40 to, for example, install additional wiring. If desired, the wiring clip 10 can be further secured by crimping the end 24 of the second arm 18 to match the contours of the second inner edge 44 of the metal framing member.

25 Preferably, sides 16 and 18 are thin enough so as to not impair proper placement of dry wall, or other covering material, onto the sides of the metal framing members. In addition, it is preferable that sides 16 and 18 allow drywall screws, or other covering fastening screws, to easily penetrate through sides 16 and 18 and into the side of the framing member. In a specific embodiment, as shown in Figure 4, the wiring clip 10 can be further

secured to the framing member by means of a secondary attachment device, such as a screw or other similar means. To secure, a screw can be driven through, for example, the first arm 16 and/or the second arm 18 and into the metal framing member. Preferably, the protrusion of the secondary attachment device should be such as to not interfere with proper placement of dry wall, or other covering material, onto the sides of the metal framing members.

Referring to Figure 6, a specific embodiment of the subject wiring clip is shown wherein the wire receiving area opens outward such that the wiring can be placed into the wire receiving area after the wiring clip is attached to the framing member. Alternatively, in this embodiment the wiring can be secured in the wire receiving area prior to securing the wiring clip to the framing member. As shown in Figure 6, once a wire is positioned in the wire receiving area 12, sides 46 and 48 can be pushed toward each other and snapped together so as to secure the wire within the wire receiving area. As needed, the snap mechanism holding sides 46 and 48 together can be a one-time snap or can be an open-and-close snap. Also, other closure mechanisms can be used. For example, friction can be relied on to hold the wiring between sides 46 and 48. Preferably, the wiring clip of Figure 6 can be made of a flexible plastic or other appropriate material.

It should be understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and the scope of the appended claims.